II. ECONOMIC IMPACTS OF THE PHASE-OUT IN 2005 OF QUANTITATIVE RESTRICTIONS UNDER THE AGREEMENT ON TEXTILES AND CLOTHING

*By Margit Molnar and Przemyslaw Kowalski**

Introduction

This paper provides a quick review of the integration process into GATT 1994 of textiles and clothing products. It also examines the most recent changes in the global textile and clothing markets, and analyses some major strategies adopted by producers in order to survive in the post- Multi-Fibre Arrangement (MFA) global competitive arena.

The Agreement on Textiles and Clothing (ATC) was one of the major achievements of the Uruguay Round. It put an end to a system of managed trade in textile and clothing products that lasted for more than 40 years, first under the Long-Term Agreement Regarding International Trade in Cotton Textiles (LTA) and then MFA. The MFA quota system was adopted as a temporary relief measure in favour of the domestic textile and clothing (T&C) manufacturers in the developed countries. It provided protection for high-cost domestic industries and allowed inefficient exporters to gain access to markets at the expense of more productive ones whose access had been limited. The quota system prompted a scattering of global production and sourcing, and strongly influenced locational decisions of global textile and garment producers.

Not surprisingly, the abolition of the quota system is starting to significantly reshape the global T&C production, trade and investment landscapes by bringing about efficiency gains. However, the benefits of the phase-out are not evenly distributed, and for some countries may only be realized in the medium to long term; this is particularly so, since a significant share of trade with China, the world's top exporter of T&C products, is still restricted by temporary quotas in the European Union and United States markets. Efficiency gains are being realized, inter alia, through the agglomeration of production exploiting scale economies, technology spillovers and reduction in trade costs. Pro-competitive effects in derestricted markets are also being observed.

The consequences of the ATC phase-out differ across exporters, and their preparedness is playing a role in how they manage to cope with competitive challenges in more open markets. Exporters with low costs and high productivity such as China, India and, to a lesser extent, Pakistan and Viet Nam have succeeded in benefiting from enlarged markets, while the phase-out has brought about challenges for OECD and small country producers. A major challenge in OECD countries is how to cope with decreasing labour demand in the textile and clothing industries as a result of increased competition and relocation, while in low-income countries it is how to specialize in products and markets to stay afloat. This group of countries has been given further time

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* The material presented in this chapter draws on work in progress within the OECD Secretariat. Nevertheless, the views presented are those of the authors and do not necessarily represent the views of OECD or its member countries. Comments by Raed Safadi and Ralph Lattimore, and the excellent research and statistical assistance provided by Laura Munro and Clarisse Legendre are gratefully acknowledged.

for adjustment, which should be better exploited to prepare for fiercer competition in global textiles and clothing markets, and in particular learning from the experience prior to the phase-out.

A. Textiles and clothing in world trade: An overview

1. T&C industry offers opportunities for producers in countries with differing endowments and technologies

The textiles and clothing industry is a large and diverse sector that can be subdivided into distinct parts thus offering opportunities for countries with differing resource endowments and technologies. The traditional division is between the production of natural fibres, fabrics and finished clothing, although the import, distribution and retail segments play an ever more important role in the industry's value chain (OECD, 2004 and 2005; Nordas, 2005).

Natural fibre production is the domain of agricultural economies with access to plants from which the fibre is produced. Synthetic fibre production depends on the ability to innovate or adopt new technologies. Fibres are spun into yarn, and yarn is either woven or knitted into fabric. Fabric is then finished, which involves dying, printing or softening, among others. Fabric production is a highly automated, capital-intensive activity and is susceptible to technological advances. Clothing production consists of cutting the fabric, grouping it, tying it into bundles and sewing together. It is labour intensive and workers are specialized in a limited number of tasks that are performed repetitively.

Nevertheless, cutting is often a computer-assisted process and specialized machines are used for different types of sewing (Nordas, 2005). Indeed, as table 1 indicates, labour costs account for a higher share of costs in the clothing sector, although capital shares are not obviously lower; however, this does not apply to the case of Mexico, where the share of capital in total textiles cost is close to two and a half times that of labour. The wearing apparel sector relies relatively less on intermediate inputs compared with the textile sector. Interestingly, up to 34 per cent of intermediate inputs can be of foreign origin, which underlines the extent of internationalization of the industry.

2. Share of T&C in world trade is decreasing but remains important

The T&C industry remains a significant industry in world exchanges, although its share in world trade and its annual output growth rates have been falling over the past few years (table 2). In 2005 – the most recent year for which consistent data are available – world trade in T&C amounted to US$ 481 billion, or 4.7 per cent of world exports, compared with 6 per cent and 5.3 per cent in 2003 and 2004, respectively. T&C still plays an important role in trade of OECD countries, amounting to 3.5 per cent of their merchandise exports; however, such trade is more critically important for many developing countries where the share of T&C in total exports can reach more than 60 per cent. The share in OECD's trade was 3.5 per cent in 2005 (table 3), which was below the world average; however, this masks a considerable reliance on T&C shipments by countries such as Portugal, Greece or Italy with shares of between 9 to 13 per cent in their total exports.

Table 1. Cost structure of firms in the textiles and wearing apparel sectors

Unit: %

	Primary factors				Intermediate inputs	
	Skilled labour	Unskilled labour	Total labour	Capital	Domestic	Imports
			Textiles sector			
China	1.5	9.2	10.6	11.6	66.9	10.9
Japan	6.5	17.4	23.9	7.4	58.5	10.2
India	2.7	17.6	20.3	6.6	67.9	5.2
Canada	2.9	21.4	24.3	9.7	36.5	29.4
United States	4.3	19.6	23.9	10.9	56.2	9.1
Mexico	1.9	11.3	13.2	31.1	49.1	6.7
EU15 (average)	4.6	17.3	21.9	7.8	35.9	34.4
			Wearing apparel			
China	2.4	17.5	19.9	12.0	60.5	7.7
Japan	3.9	21.7	25.6	11.5	56.0	6.9
India	2.9	20.9	23.8	7.8	66.0	2.4
Canada	4.7	24.6	29.3	9.8	36.9	24.0
United States	5.7	20.9	26.6	6.2	54.1	13.1
Mexico	1.4	9.1	10.5	29.0	56.1	4.4
EU15 (average)	4.0	18.3	22.2	8.3	35.6	33.9

Source: GTAP 6 database, base year 2001.

Table 2. World exports of textiles and clothing 2003-2005

	2003	2004	2005
Value (US$ billion)	418	466	481
Percentage of world exports	5.96	5.25	4.75
Percentage change for year before	15.1	11.47	3.15

Source: United Nations Comtrade Database, 2007.

In contrast to the OECD area, low- and middle-income countries in East Asia, the Pacific and South Asia record particularly high shares with countries such as Bangladesh, Pakistan or Sri Lanka recording shares of, respectively, 84 per cent, 63 per cent and 48 per cent. The high reliance on T&C shipments underlies the important role that this sector plays in development and trade integration of these and other developing countries. More broadly, developing countries account for more than 50 per cent of world textile exports and, as pointed out by WTO, “in no other category of manufactured goods do developing countries enjoy such a large net-trading position” (World Trade Organization, 2006).

Table 3. Textiles exports as a percentage of total merchandise exports, 2005

By country grouping	%	20 countries with highest shares[a]	%
		Bangladesh[b]	84.0
All countries – total	4.8	Pakistan	63.9
		Benin	60.5
All high-income	3.5	Sri Lanka	47.5
High-income, non-OECD	7.2	Mauritius	40.8
High-income, OECD	3.1	Tunisia	32.7
OECD 30	3.5	Guatemala	30.9
		Albania	30.4
Low and middle income, East Asia and Pacific	10.3	Morocco	26.9
Low and middle income, Europe	5.7	The former Yugoslav Republic of Macedonia	26.4
Low and middle income, Latin America and Caribbean	3.3	Mongolia	26.1
Low and middle income, Middle East and North America	3.1	Jordan	25.8
		Turkey	25.8
Low and middle income, South Asia	24.7	Romania	19.0
Least developed countries	3.5	Moldova	17.8
		Bulgaria	17.7
		India	17.3
		United Republic of Tanzania	16.1
		China	14.1
		Hong Kong, China	13.5
		Portugal	13.4

Source: United Nations Comtrade Database, 2007.

[a] Countries for which the data were available for 2006.
[b] Data are for 2004.

The EU25 and the United States are the two main destination markets for T&C products, accounting respectively for US$ 185 billion and US$ 84 billion, or 44 per cent and 20 per cent of world imports in this category in 2005.[1] Other important importers include Hong Kong, China with nearly 7 per cent of world's imports, Japan (6 per cent), and China (5 per cent). Canada and Mexico each account for approximately 2 per cent of world imports. Remarkably, 2003 and 2004 – the two years that preceded the phase-out of ATC quotas – recorded high growth rates in the textile trade of around 12 per cent, while in 2005 those rates reverted to 2-3 per cent.

The world's largest single country exporter of T&C products in 2005 was China, with US$ 107 billion or 22 per cent of world exports, followed by Hong Kong, China, with US$ 40 billion (8 per cent). Yet, the EU25 as a group remains the most important exporter with US$ 149 billion or 32 per cent of world exports. Other OECD countries with high shares are the United States (4.6 per cent of world exports), Turkey (3.9 per cent), the Republic of Korea (2.9 per cent), Mexico (2 per cent) and Japan (1.7 per cent).

[1] It should be noted that the import and export shares for EU25 referred to in the two following paragraphs include intra-EU25 trade.

3. Phase-out of MFA quotas under ATC

(a) ATC phase-out concludes integration of T&C trade into GATT rules

The 10-year period of eliminating quantitative restrictions on imports of textile and clothing set out in ATC ended on 1 January 2005. ATC was designed to regulate the transition between MFA – an agreement that came into force in 1974 as a replacement of the Long-Term Agreement Regarding International Trade in Cotton Textiles signed in 1962 – and a full integration of textiles and clothing products into the GATT rules.

Even though MFA was aimed at an orderly opening of restricted textile and clothing markets, it was a major departure from the basic GATT rules and, in particular, the principle of non-discrimination and application of quantitative restrictions instead of tariffs. The MFA quotas were applied almost exclusively to imports from developing countries, an application which was also against the pro-development spirit of GATT. The discriminatory nature of MFA, the historical importance of textiles in the process of industrialization and the comparative advantage that many low-wage countries displayed in the labour-intensive segments of textile production created a situation where, as Reinert (2000) pointed out, the inclusion of ATC in the Marrakech Agreement was seen as crucial to the success of the Uruguay Round in the minds of many developing country members of WTO.

Integration of textiles products into GATT 1994 was considered the main pillar through which ATC was supposed to deliver market opening. For the European Union, Canada, Norway and the United States, which carried the MFA restrictions into ATC, the integration of a product into GATT 1994 had two consequences (World Trade Organization, 2004). First, any quantitative restriction maintained on such a product under ATC was eliminated. Second, the transitional safeguard mechanism could not be invoked any more with respect to imports of such a product.[2] For WTO members who did not maintain quotas under MFA, the effect of implementing integration programmes was to remove the possibility of having recourse to the transitional safeguard mechanism.

Products were to be integrated in four cumulative steps – 16 per cent of the 1990 volume of trade by 1 January 1995, 33 per cent by 1 January 1998, 51 per cent by 1 January 2002 and 100 per cent by 1 January 2005.[3] In this regard, a back-loading was built into the system, as the last 50 per cent of the volume integration was scheduled to occur on 1 January 2005. Additionally, the choice of products to be liberalized at each stage was left to the concerned countries as long as the integrated

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[2] ATC regulated the application of transitional safeguards, in the form of quantitative restrictions that could be utilized also by countries that had not maintained quotas under MFA on imports of products covered by ATC and which cause serious damage or a threat thereof to the import-competing domestic industry. Such restrictions appear to have been important only for selected bilateral trade flows involving mainly the United States and some Latin American countries in the first half of the ATC period. In fact, in ATC Stage 3 (1 January 2002 to 1 January 2005) there were only two recourses to this mechanism, both by Brazil.

[3] Norway eliminated all restrictions in three quicker steps – 1 January 1996, 1 January 1998, 1 January 1999 and 1 January 2001. For Norway the potential effects of integration of products into GATT 1994 became equivalent to members who did not carry over the restrictions but retained the right to use the provisions of Article 6 of ATC on the transitional safeguard mechanism.

items comprised four categories of products: (a) tops and yarns; (b) fabrics; (c) made-up textile products; and (d) clothing. Yet, the relatively broad product coverage of ATC implied – especially in its initial phases – that the integration of products into GATT did not necessarily cover the products on which MFA quotas existed in the first place.[4] In addition, different MFA quotas had different restrictiveness, which was demonstrated by varying quota fill rates; those non-binding quotas were the ones to be integrated first. Furthermore, the commitments were set in terms of volumes, not values, which implied that the first two stages of ATC were characterized by integration of low-value added items (Reinert, 2000).

Taken together, these rules appear to have created possibilities of postponing the liberalization of the most sensitive products and, indeed, the first two stages of ATC were skewed away from clothing products that have the highest low-skilled labour content (Reinert, 2000). Yet, while many would like to have seen a more gradual integration of T&C products over the ATC period, the back-loading of the liberalization process should not have been unexpected, since some of the restricting countries had made clear from the start that they intended to integrate the most sensitive products at the end of the 10-year period, i.e., on 1 January 2005 (World Trade Organization, 2004).

In addition to the integration of textiles and clothing products into GATT, ATC accelerated the annual growth rates of quotas carried over from MFA. These growth rates were supposed to be increased by 16 per cent by 1 January 1995, 25 per cent by 1 January 1998 and 27 per cent by 1 January 2002. What this pillar of ATC meant was, in practice, that if the quota was set to increase by 6 per cent annually[5] under MFA it should increase by 6*1.16=6.96 per cent annually under the first phase and by 6.96*1.25=8.7 per cent annually under the second phase of ATC, and so on. Whether this system of quota growth has delivered significant liberalization is disputed. As per Nordas (2005), quoting Reinert (2000), the accumulated aggregate increases of the quotas over the ATC period in the European Union were 18 per cent and in the United States 25 per cent above the levels that they would have been with the continuation of MFA.

There has been full compliance with the quota growth rate and volume integration commitments at each ATC stage. However, as indicated in Textiles Monitoring Body reports to the Council for Trade in Goods (World Trade Organization, 2004), despite the fact that ATC had provisions and encouraged quicker liberalization, most importing countries had not gone beyond the minimum liberalization required for each stage. In fact, the most sensitive products were only liberalized at the end of 2004.[6]

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4 Many analysts have pointed out that the choice of products covered by ATC and included in the Annex to the Agreement could be seen as working against the objective of liberalizing trade in textiles and clothing. The list included some products that had never been subject to restrictions in any bilateral agreement under MFA. In effect, the list from which the ATC countries selected products for integration at each stage was wider than the list of products actually restricted under MFA by any individual importer.

5 Under MFA, the restricted textile and clothing were limited to 6 per cent annual growth, although in exceptional circumstances these growth rates could be set at lower levels.

6 Nevertheless, Canada, for example, has reported integration going beyond the set minima in its submissions to the Textiles Monitoring Body of WTO.

If the number of phased-out quotas could be taken as a proxy for the extent of liberalization, the figures provided in table 4 – reproduced from a communication by the International Textiles and Clothing Bureau (ITCB), an intergovernmental organization of developing countries exporting textiles and clothing – would suggest that back-loading was even more significant than would be suggested by the agreed cumulative integrated volume targets. The United States would integrate 89 per cent of the quotas it had in 1990 only in the final stage of ATC; in the case of the European Union and Canada, it would be 70 per cent and 79 per cent, respectively. In any case, it is clear that even though ATC was successful in phasing-out the MFA quotas, the process was not gradual and the major reform occurred at the end of the ATC existence.

Table 4. Pace of quota abolition

(As contained in the communication from ITCB members)

	United States	EU	Canada	Norway
Total number of quotas at start of ATC[a]	937	303	368	54
Of which phased out:[b]				
(a) Stage 1 (from 1995):				
By integration under Article 2.6	0	0	8	0
By early elimination under Article 2.15				46
(b) Stage 2 (from 1998):				
By integration under Article 2.8(a)	3	21	26	0
By Article 2.8(a) and Article 4	2			
By early elimination under Article 2.15	10[C]			8
(c) Stage 3 (from 2002):				
By integration under Article 2.8(b)	69	57	42	0
By Article 2.8(b) and Article 4	2			
Under bilateral agreements		13		
Under AGOA	17			
Total number of quotas abolished as of March 2004	103	91	76	54
Quotas to be abolished on 1 January 2005	**834**	**212**	**292**	**0**

Source: World Trade Organization, 2004.

[a] Including specific limits and sub-limits notified under Article 2 of ATC.
[b] Numbers do not include product categories for which quotas have been eliminated only partially.
[c] Eliminated only for Romania, not for any other restrained member.

(b) Timing and cross-country distribution of economic benefits remain difficult to identify

Overall, despite the back-loading, ATC was an unquestionable improvement over MFA. Yet, the timing and cross-country distribution of its economic benefits remain difficult to pin down, which is, in part, related to the complexity of the changes it triggered. First, each of the four countries that carried the MFA restrictions into ATC set them on the basis of different product classifications. Second, they maintained different initial quotas that were not related to their bilateral trade potential in any particular way. Third, they set different annual quota growth rates. Fourth, at the product category level, some limits were specified in the number of imported items, some in square metres and some in kilograms, making the assessment of their restrictiveness and cross-country

comparisons extremely difficult. Fifth, existing quotas could have been changed in the interim as long as the targets set for integration stages were obeyed. All these factors imply that the extent of restrictiveness of MFA, and consequently the extent of liberalization brought about by ATC, was specific to each individual bilateral trade relation. Hence, it should be borne in mind that the concept of a generalized assessment of the economic impact of MFA and ATC is limited.

4. Post-ATC policy changes in the United States and European Union markets

On the one hand, the developments in the first few months immediately following the final stage of ATC were predictable given the back-loading of quota removal. On the other hand, their precise magnitude could not be foreseen, among others, for the reasons given in the preceding paragraph. During January-March 2005, for example, imports by the United States of cotton trousers from China increased by 1,500 per cent and those of knit cotton shirts by 1,250 per cent compared with their levels recorded during the same period in 2004.[7] Other low-cost producers that have significantly increased their exports to the United States include Bangladesh, India, Indonesia, Pakistan and Viet Nam, among others. In late April 2005, the United States Committee on the Implementation of the Textile Agreement (CITA) began considering requests for safeguard action on seven product categories imported from China. Approximately one month later, quantitative limitations on imports of seven textile categories were established through 31 December 2005 and bilateral negotiations with China were requested. Upon receipt of the request, China agreed to limit its exports to a level not greater than 7.5 per cent above the amount shipped during the preceding 12 months.

The bilateral talks between the United States and China that were concluded in November 2005 resulted in a memorandum of understanding in which reintroduction of temporary quotas for 21 product categories was agreed under the special T&C safeguard clause of China's WTO accession protocol. The temporary quotas were imposed on several items including cotton shirts, cotton trousers and underwear. They were reported to cover 90 per cent of imports restricted in 2004. Depending on the product category, the agreement allowed for an increase of between 173 per cent and 640 per cent in the biennium 2004-2006, between 12.5 per cent and 16 per cent in 2007, and between 15 per cent and 17 per cent in 2008.

Similar to the United States, in the European Union the beginning of 2005 brought about significant increases of imports from China. The highest percentage increases with respect to the first quarter of 2004 were recorded for pullovers (534 per cent), men's trousers (413 per cent), blouses (186 per cent) and bed linen (164 per cent). Investigations for evidence on market disruptions caused by the surge of imports from China were initiated at the end of April 2005 and a memorandum of understanding was reached in June 2005. The agreement limited, until end 2007, China's exports in 10 product categories for 2005, 2006 and 2007, with annual quantity growth rates ranging from 10 per cent to 12.5 per cent from the base imports level in April 2004-March 2005. The restricted items included pullovers, men's trousers, blouses, T-shirts, dresses, brassieres, flax yarn, cotton fabrics, bed linen, and table and kitchen linen.

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[7] Based on communications of the US Department of State.

Hence, the additional transitory protection provided to the domestic textile industry through the reintroduction of quantitative restrictions in the European Union will be one year shorter than in the United States. There are also differences in product coverage that are likely to differentiate the third-country impacts. For example, the United States restricted cotton knit shirts while the European Union did not; the European Union restricted dresses while the United States did not. While one should not perhaps be reading too much into these differences, it is possible that to a certain extent they do influence the differential impacts that the new quantitative restrictions have on third-party textile suppliers competing with China in the European Union and the United States markets, such as Bangladesh, India or Viet Nam.

5. Major post-ATC changes in T&C trade in the European Union and United States markets

After the initial shock, the European Union quotas curbed the surge in imports from China. However, China's competitors are being put under increasing pressure each year.

Even with the reintroduction of temporary quotas, 2005 and 2006 brought about significant changes in the European Union and the United States markets. The value of China's textiles and apparel exports to the EU25 increased by 43 per cent in 2005, which was the largest increase across all the suppliers. This surge was mainly driven by apparel products, which grew by 45 per cent, while textiles exports increased by 22 per cent. India and Viet Nam have also experienced growing exports amounting to 18 per cent and 6 per cent, respectively; this growth was largely driven by wearing apparel. Other exporters that enjoyed small increases were the United States, Turkey and Bulgaria (figures I to III).

However, for most of the other suppliers, the value of exports to the EU25 decreased in 2005. One group of countries with negative impacts include those enjoying some sort of preferential access to the European Union market, such as: (a) Morocco (-7 per cent) and Tunisia (-13 per cent), both of which are parties to the Euro-Mediterranean Partnership Agreements; (b) Bangladesh (-5 per cent), which enjoyed duty and quota-free market access within the Everything but Arms initiative: and (c) Mauritius, which enjoyed preferential access granted to the ACP countries.[8] Nevertheless, several other suppliers such as the Republic of Korea (-24 per cent), Australia (-29 per cent) and Thailand (-8 per cent) also faced decreasing demands for their shipments.

Remarkably, the negative 2005 trends in the EU25 market were reversed in 2006 for almost all suppliers. The value of Chinese exports grew by 13 per cent – a marked slowdown from the previous year – and the value of exports increased for most other suppliers including Bangladesh (30 per cent), Viet Nam and Hong Kong, China (47 per cent each), Sri Lanka (21 per cent), Cambodia (16 per cent), Pakistan (13 per cent) and Mauritius (10 per cent). This likely illustrates the impact of the temporary quotas, which apparently had succeeded in curbing the surging imports from China only in 2006. This is likely to do with the fact that even though a quota

[8] Box 2 provides a discussion of Madagascar's textiles and clothing industry, its reliance on preferential trade and ways of coping with the MFA phase-out.

for 2005 was also established, it was based on the import level during April 2004-March 2005, which covered the first three months of China's unlimited access to the market.

As far as the most current data (January-March 2007) are concerned, there was an increase in the imports of textiles and apparel from China of 36 per cent over the same period in 2006, which suggests acceleration with regard to the rate of growth for the whole of 2006 (22 per cent). If only apparel is taken into account, the acceleration in growth rates is from 13 per cent to 39 per cent. This suggests that with the increases in the temporary quotas, China's competitors in the EU25 market are under increasing pressure. This is also visible in the rates of export growth calculated for these suppliers, which, especially in apparel, were much lower in the first quarter of 2007 than they were in 2006.

In the United States market, 2005 and 2006 brought about even larger increases in imports from China. The value of textiles and apparel imports from China increased by 54 per cent in 2005, which was the largest increase across all suppliers. This surge was mainly driven by apparel products, which grew by 70 per cent, while textiles exports increased by 29 per cent. The impacts on third countries in the United States market give a clearer picture with Bangladesh, Cambodia, India, Indonesia, Pakistan and Viet Nam all increasing their exports by between 6 per cent and 29 per cent. With the exception of India and Pakistan, this trend is quite clearly driven by apparel exports since, in fact, most of these countries' exports of textiles have declined. Many suppliers lost market shares, including the Republic of Korea (-26 per cent), Turkey (-9 per cent), NAFTA members Mexico (-7 per cent) and Canada (-8 per cent), Caribbean Basin Initiative countries (-4 per cent), Central American Free Trade Agreement (CAFTA) (-4 per cent), Guatemala (-7 per cent) and Honduras (-2 per cent) (figures III and IV).

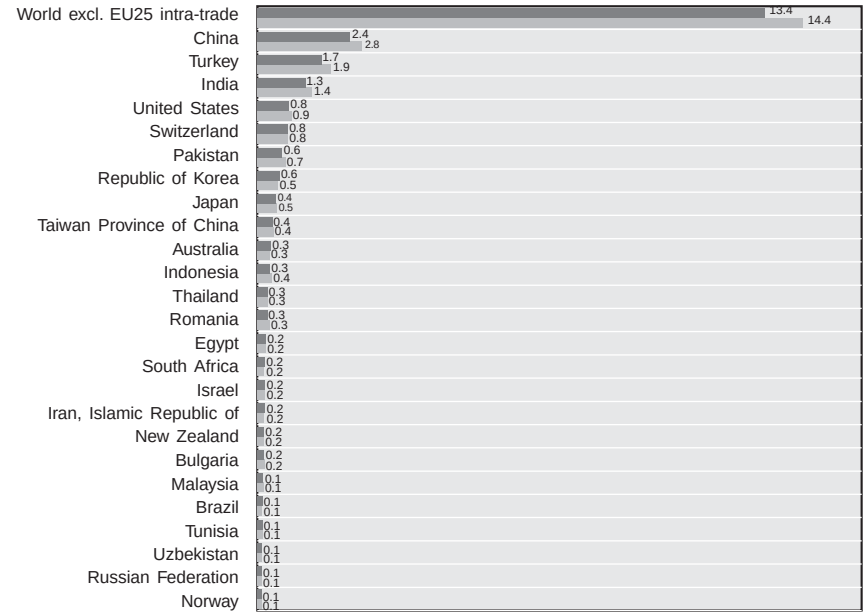
In contrast to the EU25 market, 2006 did not bring about a reversal in these trends in the United States market, even though the increase of imports from China was halved from 54 per cent in 2005 to 21 per cent in 2006. In fact, for many Asian suppliers other than China the growth rates of exports increased with regard to 2005. This was the case for Bangladesh, Indonesia and Viet Nam, among others. At the same time, the decline in exports for countries such as Mexico, Canada and Turkey was more pronounced in 2006 than in 2005.

The data for 2007 confirm the conclusions drawn already for the European Union: increasing quotas on Chinese imports put increasing pressure on other suppliers. In January-March 2007, imports of Chinese apparel grew by a high of 63 per cent from the same period in 2006 – almost as quickly as in 2005. It can also be observed that in many countries that were losing their market shares in 2005 and 2006, this process has continued in 2007 at an even faster pace (figures III and IV).

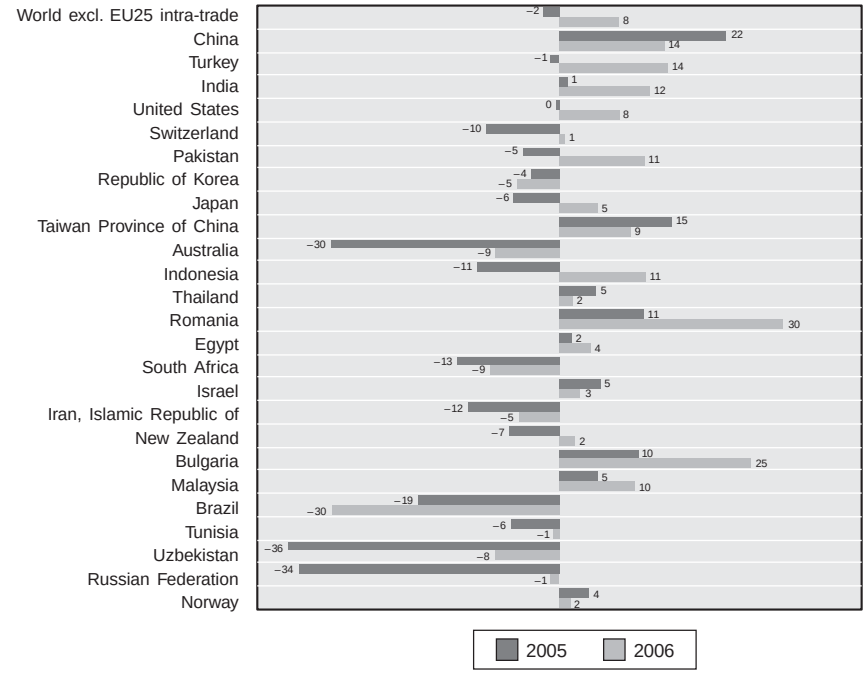
The fact that many of the exporters that experienced declining exports to the European Union following the abolition of quotas in 2005 were gaining back their market shares in 2006, and that a similar situation did not happen in the United States market, might suggest that the temporary measures introduced by the European Union might have been more binding although they varied by product category.

Figure I. EU25 imports of textiles by country and region, 2005 and 2006

I(a). Value in billions of Euros



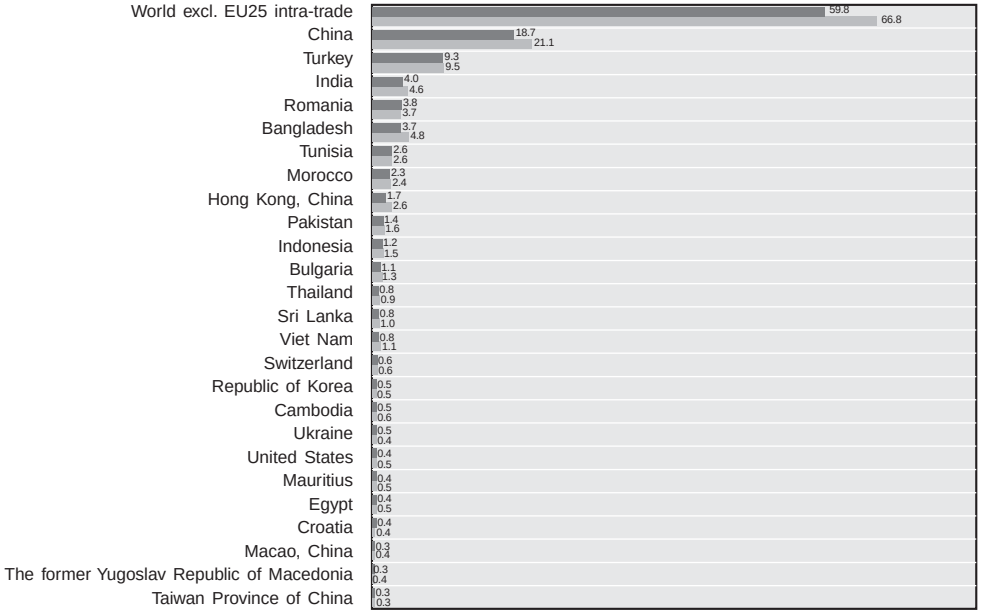
I(b). Percentage change



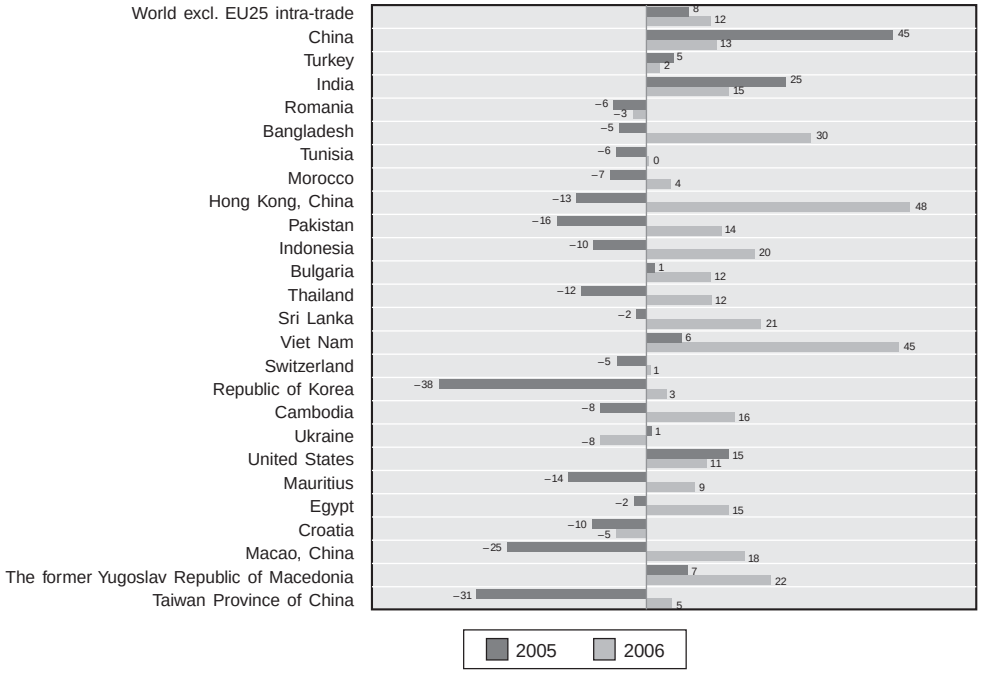
Source: Eurostat COMEXT, 2007.

Figure II. EU25 imports of apparel by country and region, 2005 and 2006

II(a). Value in billion euros



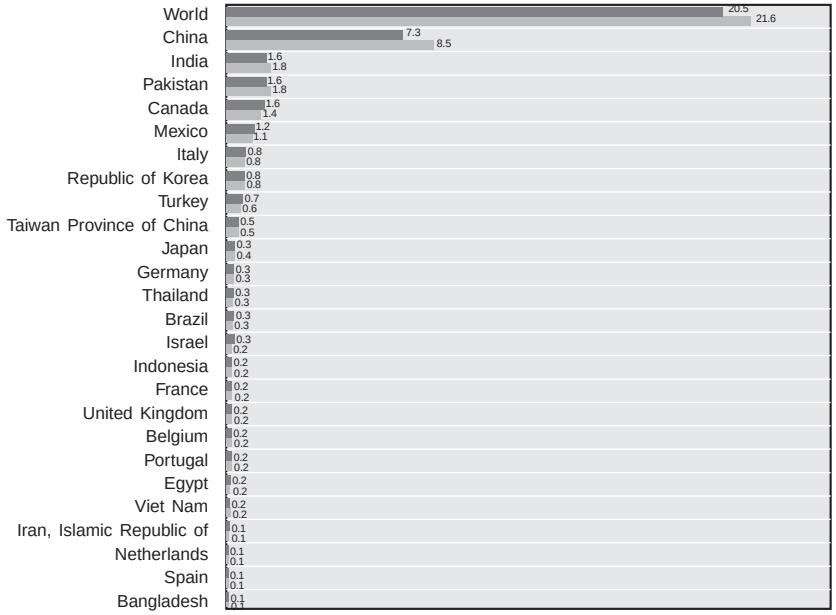
II(b). Percentage change



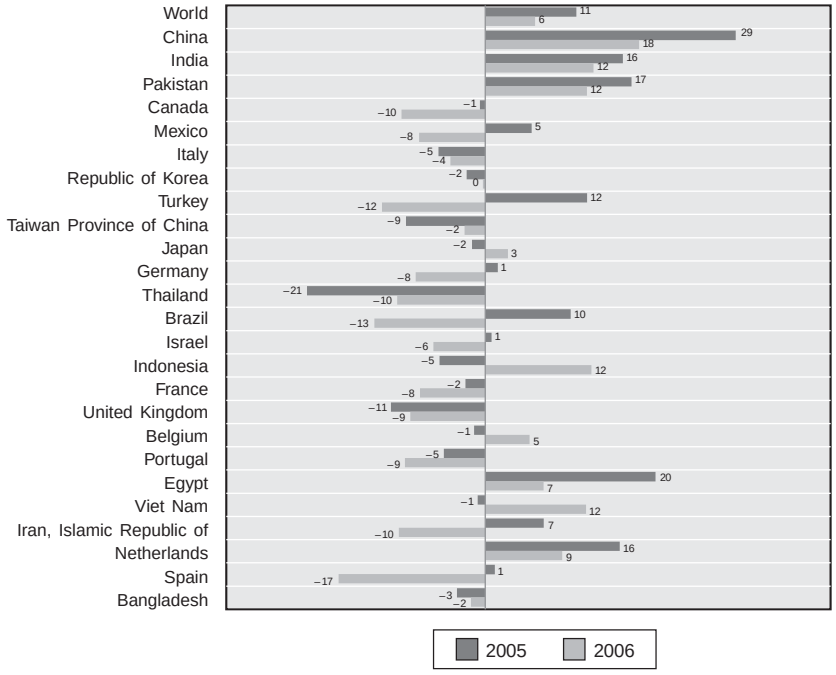
Source: Eurostat COMEXT, 2007.

Figure III. United States imports of textiles by country and region, 2005 and 2006

III(a). Value in billion United States dollars



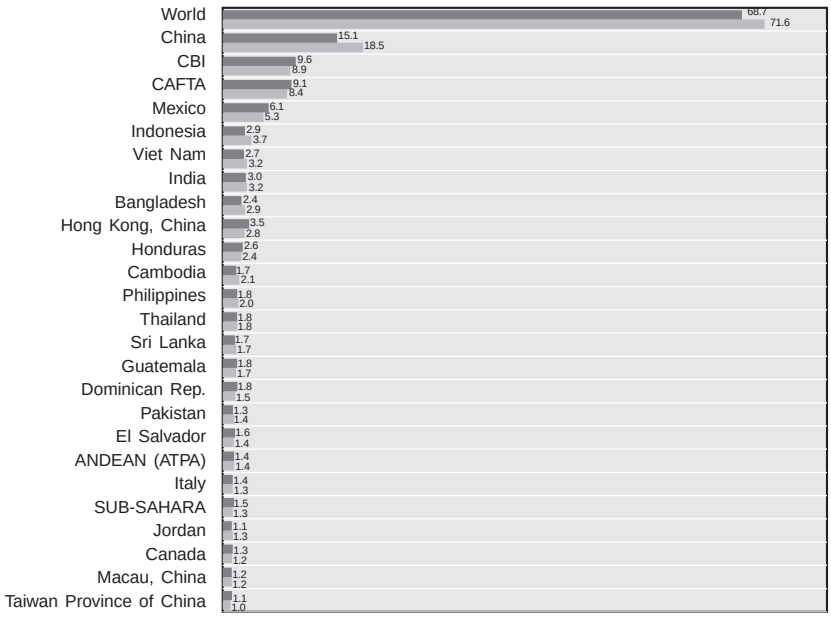
III(b). Percentage change



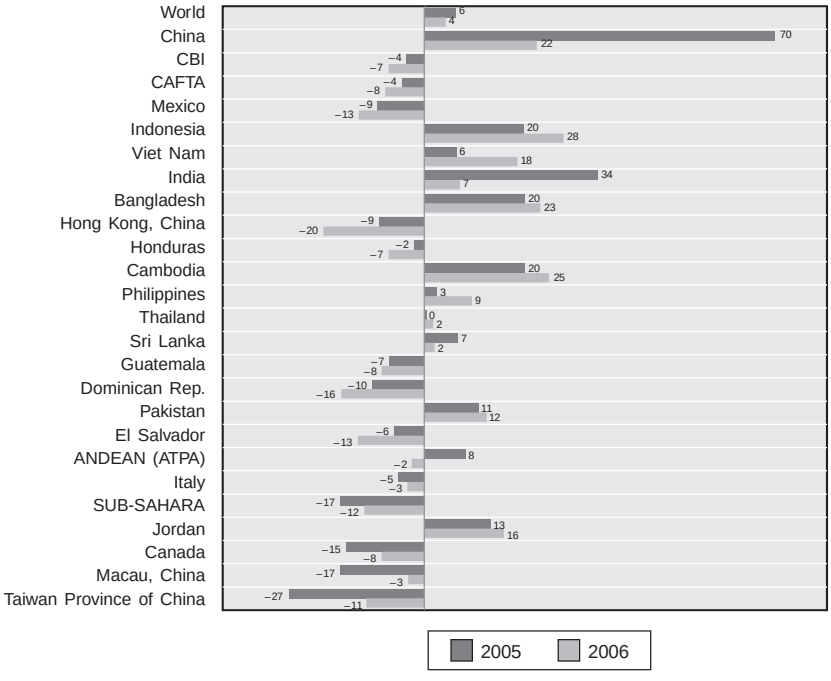
Source: Office of Textiles and Apparel, 2007.

Figure IV. United States imports of apparel by country and region, 2005 and 2006

A. Value in billion United States dollars



B. Percentage change



Source: Office of Textiles and Apparel, 2007.

B. Survival strategies

The post-ATC setting has provided an opportunity for all exporters to compete in global markets under more equal conditions, although the temporary quotas that were reintroduced by the European Union and the United States during the course of 2005 did not make the quota removal process complete. In addition, tariff and non-tariff barriers on textile and clothing products persist at levels that are higher than in other sectors.

The economic implications of T&C quota removal differ slightly across different theories of international trade. The "traditional trade theory" would predict increased specialization between countries with different endowments or technologies of production. Capital-abundant countries, for example, would tend to specialize in capital-, skill- and research-intensive segments of the industry.

The predictions of the "new trade theory" are not very different: high-income countries would also tend to concentrate on industries with high levels of innovation and in products on the upper quality segment. This specialization may be both vertical (i.e., differentiation by product quality) and horizontal (i.e., differentiation by product variety), given that not only different product categories but also products in the same category can be produced with techniques of different capital, skill and research intensities. Nevertheless, the new trade theory allows for increasing returns to scale and product differentiation. Countries producing differentiated products will engage in intra-industry trade, and larger volumes of trade will be observed between countries of relatively similar size.

The "economic geography theory", unlike the other two theories, which do not address the spatial implications of trade, would predict that producers in the proximity of the large market would benefit first, leading to a formation of a core and periphery. The core would specialize in industries with increasing returns to scale, and spillovers should enforce the advantages of large markets as will forward and backward linkages. The periphery will specialize in low-wage industries, industries with less product differentiation and limited spillovers. This initial advantage, however, could be eroded with the decrease in transportation costs, with the emergence of agglomeration dis-economies or with a faster rise in wages in the core.

The analysis in this chapter suggests that the phase-out of textiles and garments quotas indeed prompted both developed and developing country producers to adopt new strategies in their quest for survival in the global competitive arena. On the one hand, countries that had formerly underutilized their quotas (i.e., less efficient producers) were put under increasing pressure to secure their markets. Formerly restricted producers with high aggregate efficiency, on the other hand, were provided with the opportunity to enter previously unconquerable markets. In an environment that is increasingly based on market principles, exporting countries could choose their strategies according to their relative strengths. Some of the strategies adopted by producers include specialization, both vertical and horizontal, reorientation of markets and relocation overseas. Vertical specialization, which involves differentiation by quality within the same product category, is often achieved through the upgrading of technology. In contrast, horizontal specialization is differentiation by product variety.

The following preliminary analysis of available post-ATC data suggests that vertical and horizontal specialization have been adopted by OECD as well as developing producers. The strategy of reorientation of markets has been followed by many developing country producers, while relocation has been typically adopted by OECD producers.

1. Vertical differentiation

A promising strategy for survival in the competitive arena, in particular for more efficient, high-quality producers, is to differentiate their products by quality. For established high-quality producers this mainly means withdrawing from low-cost segments and focusing on high value-added products. For latecomers, this strategy can be pursued by, for example, upgrading production technology. New technology facilitates achieving higher aggregate efficiency, which in turn leads to a higher quality of every good (i.e., produces the quality margin). Moving up the value-added chain induces vertical specialization or differentiation by quality. The prerequisite for such a strategy is the acquisition of new technology through imports or research and development, or both. Some of the producers such as China, for example, have been very successful in adopting this strategy; in preparation for the post-ATC trading environment, China started to import advanced textile machines mainly from Germany and boosted research and development investment in the textile and garments industry.

(a) Comparison of unit prices reveals evidence for some differentiation strategies

To examine which producers chose to differentiate their products vertically, a comparison of unit prices of different producers in third markets is performed, assuming that unit prices reflect quality within the same product category (Ito and Fukao, 2005). Unit prices of major exporters in major OECD markets obtained from the United Nations Comtrade Database are compared at the 6-digit level of the HS classification for 1990-2006, where available. Unit prices in the detailed product category are expressed in terms of percentage of the "benchmark" unit price. These prices are then weighted by value shares and aggregated to the 2-digit level; then the share of products, defined as "similar" or "very different" in terms of quality from the benchmark, is calculated over time.

In the United States market, Italian producers, for example, have clearly adopted the strategy of vertical differentiation. Nearly 80 per cent of other competitors' products are less than a quarter of the Italian unit price and only a few producers approach the Italian unit price (defined as within 10 per cent of the Italian unit price) in a limited number of product categories.

When choosing China as a benchmark, differentiation strategies of its major competitors in the United States can be inferred. In the clothing categories (HS 60-63), among China's top 10 competitors[9] only Canada chose vertical differentiation into higher-quality, higher-priced products (defined as at least double the Chinese unit price). However, Honduras, and pre-2005 Bangladesh and Pakistan decided upon lower-priced (defined as less than half the Chinese unit price) product, as shown in figure V(A).[10] Figure V(B) shows that during the past 10 years, India and Indonesia have been exporting products to the United States that are of similar quality as those from China, while Bangladesh, Pakistan and Viet Nam started adjusting their prices to those of China as of 2005. By 2006, more than half of all clothing exported to the United States market had a unit price very close to that of China (defined as within a 10 per cent range of the Chinese unit price).

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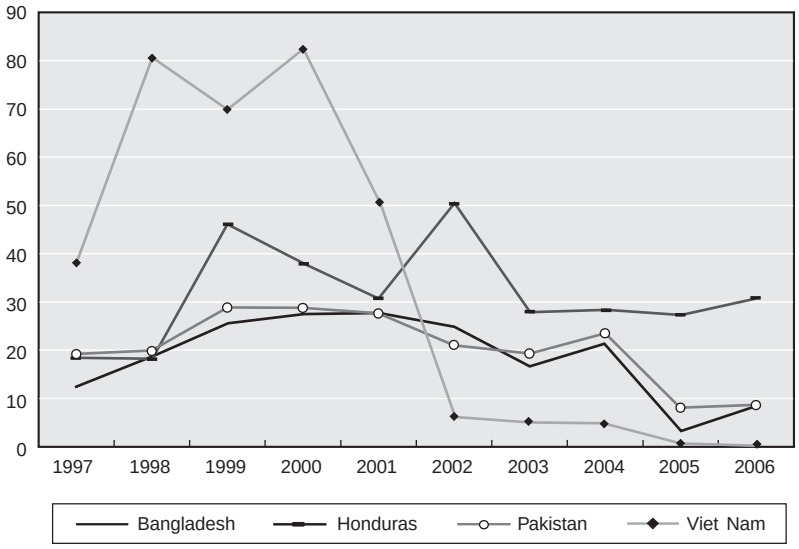
[9] Italy is not among China's top 10 competitors.

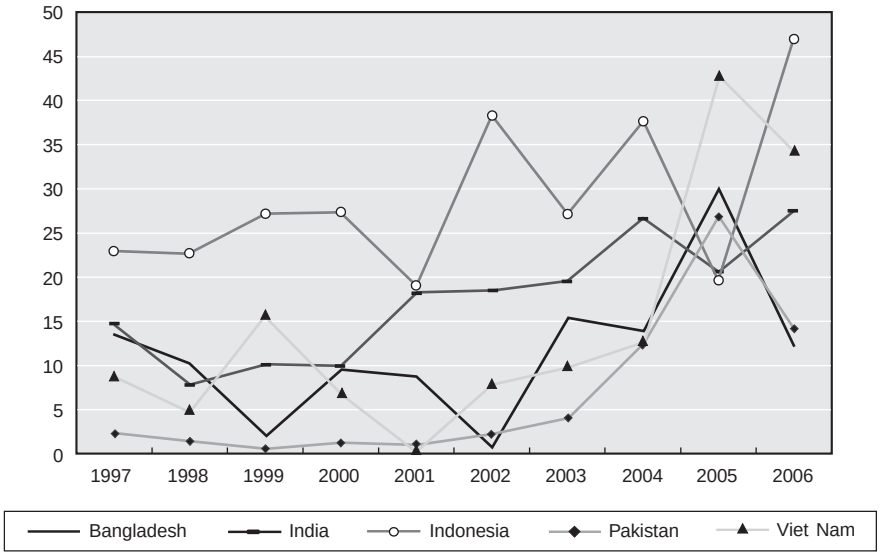
[10] In the case of Honduras, the lower pricing may be related to geographical proximity.

Figure V. Positioning strategies of selected major competitors of China in the United States market, 1997-2006

A. Few exporters able to undercut Chinese prices (share of products with less than half the Chinese price in per cent)



B. China clothing prices post-2005 (share of clothing exports within 10 per cent of Chinese unit price in per cent)



Source: OECD calculation from United Nations Comtrade Database, 2007.

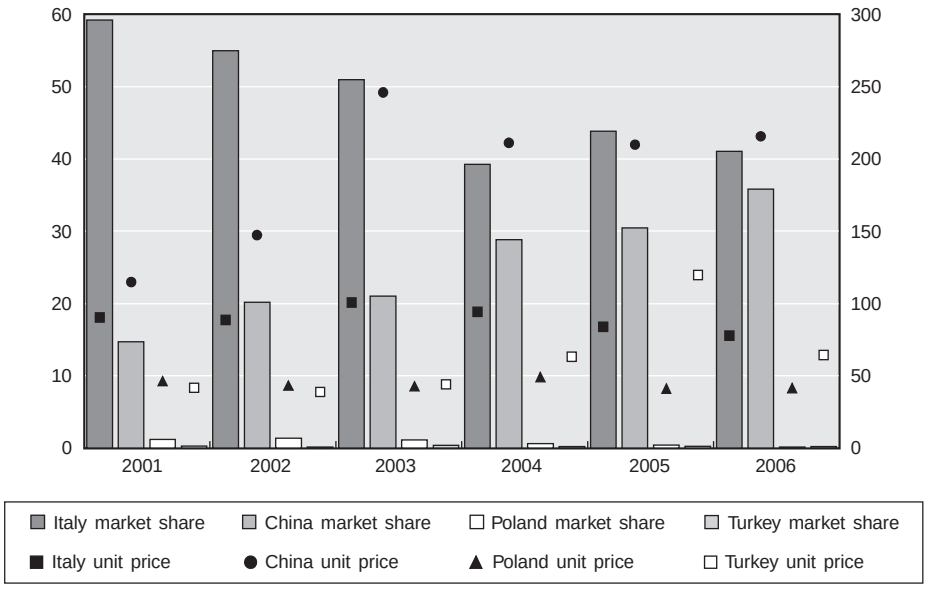
This strategy of "following" Chinese prices became particularly apparent after 2005, while in the era of protected markets the share of such products was a mere 15 per cent (2001). Viet Nam, which was previously a lower-cost producer (with more than 80 per cent of its clothing exports to the United States being less than half of the Chinese unit price prior to China's entry into WTO), has increasingly been producing the same quality products as China. It is interesting that these countries that have not differentiated themselves from China, or have tried to lower their unit prices relative to China, have gained market shares in the United States while countries that appeared to have differentiated themselves by producing more expensive and presumably higher-quality products, lost shares.

(b) Easily differentiable product categories show trend towards polarization in all G3 markets

A look at the detailed level of product categories reveals that the strategies adopted by exporters differ largely by product. In some product categories where it is relatively easy for consumers to differentiate by quality due, to a large extent, stronger branding, there is a clear vertical differentiation among producers. A typical example is silk neckties, where the difference between unit prices can be as large as 20 times. Figures VI A-C show that in the three markets examined (Germany, Japan and the United States), there is a trend towards "polarization"; high-quality, high-cost producers succeed in maintaining substantial market shares while medium- to low-cost producers in general are losing to China. Such evolving market structures reflect product differen-

Figure VI. Polarization of necktie prices

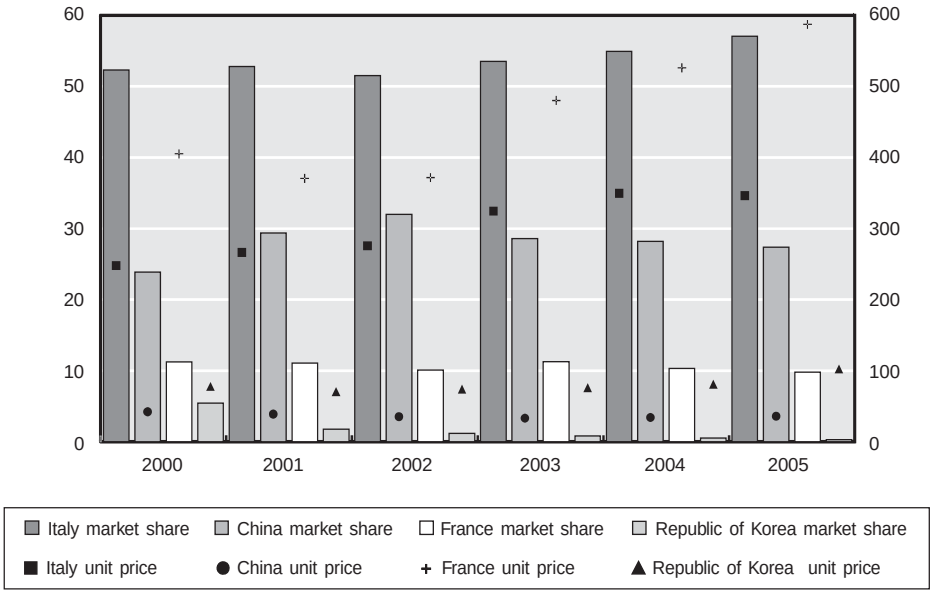
A. Market shares (left axis) and unit prices (right axis) in the German market



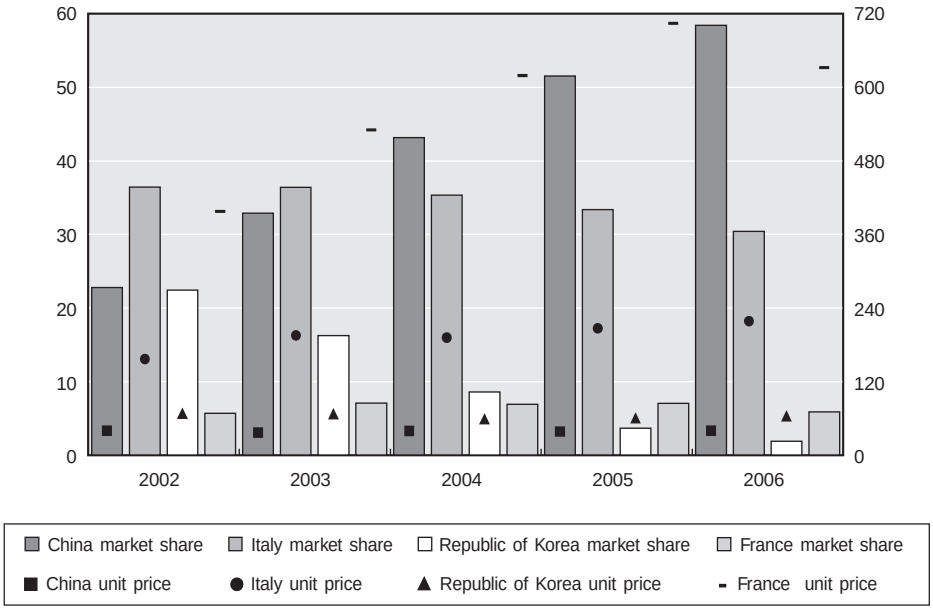
(Continued)

Figure VI. *(continued)*

B. Market shares (left axis) and unit prices (right axis) in the Japanese market



C. Market shares (left axis) and unit prices (right axis) in the United States market



Source: OECD calculation from United Nations Comtrade Database, 2007.

tiation by quality as well as fierce competition in the lower-price segments. Different price elasticities of consumer demand may also carry some explanatory influence in the choice of major exporters.

Notwithstanding some major common strategies of suppliers in the G3 markets, slight differences across markets remain. In the German market, Italy's rising unit prices for silk neckties since 2001 has led to a decline in its market share from 60 per cent to slightly above 40 per cent just in five years. Nevertheless, Italy remains the largest exporter. China is catching up fast, however, with its market share having reached nearly 36 per cent by 2006. Viet Nam is the third largest exporter with rapid market share gains. In the Japanese market, there is a clear "polarization" trend; high-cost producers such as France, Italy and the United Kingdom are maintaining their market shares, while medium- to low-cost producers are losing out to China. Notwithstanding China's rapid gains in terms of market share (from 0.1 per cent in 1990 to more than 27 per cent in 2005), Italy succeeded in maintaining its share above 50 per cent. The biggest loser in the Japanese silk necktie market is the Republic of Korea, with its market share declining from nearly 28 per cent in 1993 to 0.3 per cent in 2005.

In the United States market, Italy's share has more than halved during the past 15 years (from 65 per cent in 1991 to 30 per cent in 2006); however, Italy's share remains high despite the slight increase in the unit price. During the same period, China's share increased from about 1 per cent to 58 per cent with only slight decreases in the unit price. Similarly, in the United States market, high-cost producers such as France and the United Kingdom have maintained their market shares while medium- to low-cost producers' shares have dropped sharply. The Republic of Korea is a major loser also in the United States market, with its share falling from above 25 per cent to less than 2 per cent during the five years to 2006.

(c) Prices of less differentiable products converge in Germany and Japan

In other product categories, where vertical specialization may be less feasible due to the difficulty for consumers to differentiate between products by quality, unit prices have converged. A typical example is men's cotton shirts, where prices of different producers had come very close to each other in the German market by 2006. The convergence in unit prices was accompanied with changes in market positions of major exporters, particularly since 2005. The biggest gainer in the German market is China, which increased its market share by 650 per cent from 1990 to 2006, to reach a share of above 14 per cent in 2006. The bulk of the market share gain by China was realized between 2004 and 2005 as a result of the phasing out of quotas. Bangladesh, which was previously the biggest player, had been overtaken by not only China but also India and Turkey by 2006. Apart from China, some other producers previously constrained by quotas such as India, Indonesia, the Lao People's Democratic Republic, Malaysia, Myanmar and those in proximity such as the former Yugoslav Republic of Macedonia, also gained market shares. Some smaller players exited the market very likely due to economies of scale and/or high transportation costs. (This may be the case with many Latin-American producers, such as Barbados, Bermuda, Bolivia and Cuba, which abandoned the German market).

The variation in unit prices of men's cotton shirts in the Japanese market is similarly limited. Although Japan has not imposed quotas, there have been significant changes in market shares of major exporters over the past decades. The most important change is China's gain, its market share increased from a third in 1990 to

over three-quarters in 2005. At the same time, other countries such as India, Malaysia, Thailand and the United States lost market shares and some high-cost producers (e.g., Belgium and Finland) exited the market. Given the fact that Japan did not impose quotas, this process can be considered as driven by market forces and characterized as survival of the "fittest".

(d) Much less convergence in the United States

In the United States market, the convergence of unit prices for men's cotton shirts has been less extreme than in the German or the Japanese markets. Although prices of the most expensive exporter (Switzerland) can be as much as 50 times higher than the prices of the cheapest exporter (Jamaica), their market shares are negligible. The top 20 producers in terms of market share set prices within the range of 300 per cent of the lowest price with the exception of Italy, which differentiated into higher-quality segments, and set its prices above 400 per cent of its competitors' average unit price and more than 1,000 per cent of the lowest price.

It appears that the different post-2005 unit price evolution patterns of men's cotton shirts in the German and United States markets might be best explained by the different trade policies adopted in reaction to the surge of Chinese imports after the phase-out of quotas. While both the European Union and the United States re-imposed quotas on Chinese products in 2005, the product categories subject to quotas differed. The United States target included woven shirts while the European Union target did not. This has resulted in more enhanced competition in this product category in Germany, while in the United States exporters not subject to quotas can offer lower prices than can their Chinese competitors (and maintain higher market shares). In Japan, where the most efficient suppliers have not been restrained by quotas, unit prices of different suppliers move together.

2. Horizontal specialization

As a result of enhanced competition in major markets, many producers chose to concentrate on fewer product categories in their quest to increase their market shares in those markets. Apart from the efficiency gains related to the reduction of import sources, such a strategy also allows better exploitation of economies of scale, thereby benefiting both importers and producers.

The extent of the similarity of the different producers' export structures is important, as it heavily influences their positions in third markets. Two countries with a very similar export commodity structure, for example, can differentiate their products by quality or, if their qualities are also similar, can enter into price competition in global markets. In addition, they can geographically slice markets. This latter strategy, however, is usually not voluntarily chosen by exporters, but is driven by transportation costs or other factors such as bilateral or regional agreements, historical or cultural ties etc. One possible measure of the degree of similarity is the Kreinin-Finger (1979) index. If the commodity composition of two countries' exports is identical, this measure takes a value of 100, while in case of complete dissimilarity the value of the index is 0. As producers face different competitors in different destination markets, the similarity of export structures is examined by market. In addition, given that the textile and clothing industries generally need different endowments, similarities in exports of these two commodities need to be looked at separately.

(b) China and India closer to OECD producers' export structures but further from each other in Germany

In general, the major competitors' export structures have become more similar in the German market over time, but there are some clear trends of horizontal differentiation in some product categories. In the textile market (HS 50-59), the most significant trend is the move by China up the value chain; while in 1990, it showed little similarity with other producers except Hong Kong, China, by 2006 its export structure has become closer to that of Italy or Poland. Bangladesh and India also export increasingly similar textile commodities as other producers to Germany, nevertheless the overlap of their exports with those of other countries still remains low. The developments in the clothing (HS 60-63) segment show a somewhat different pattern. Bangladesh reduced its overlap with other countries except Italy and Turkey between 1990 and 2006.

China, on the contrary, exports increasingly similar products to Germany as those from high value-added producers such as Belgium, Italy and the Netherlands, and less similar ones, for example, to those of India. India, while it has reduced its overlap with China over the past 15 years, has increased it with Italy and the Netherlands. These findings suggest that there is a certain degree of horizontal differentiation in the German clothing market – lower-cost producers try to avoid competition with each other and, instead, move into product categories supplied by higher-cost exporters.

A glance at a more disaggregated (2-digit) level reveals that the overlap between Chinese and Indian exports has been limited in non-knitted or crocheted clothing (HS 62) and the other made articles (HS 63) categories. Even in knitted or crocheted clothing it has decreased. Analysis of 4-digit data further indicates that the decrease of overlap between Chinese and Indian exports to Germany is, to a large extent, attributable to the withdrawal of Indian producers in several categories (including women's ensembles, brassieres etc.).

(c) A clear trend of horizontal differentiation among most suppliers in the United States

Trends in the United States textile and clothing market are somewhat different from those in Germany. In particular, among textile exporters there is a clear horizontal differentiation. In 1991, China, India and Pakistan exported very similar products and the overlap between exports from Honduras, Hong Kong, China and Indonesia was also significant. Mexico and Indonesia also had some similarities, but exports by Bangladesh were very distinct. By 2006, the overlap between exports from Bangladesh and other countries had increased somewhat, but remained very low. Moreover, the export structures of all the other countries (except that of Mexico and Viet Nam, and Mexico and Canada) have become increasingly dissimilar.

In clothing, the general trend is a decreasing overlap of products but the export structure of China has come close to identical to those of other exporters such as Mexico and India. The same tendency is observed for Indonesia and Viet Nam as well as Hong Kong, China and Viet Nam. This can be explained by the increasing range of products that China and some other exporters deliver to the United States market. Another clear trend is the significant decrease of the overlap between Honduras and most other suppliers. In 1991, Honduras had a very similar export structure to Bangladesh, Canada, China, Hong Kong, China, Indonesia and Mexico; however, by 2006, it only had high overlap with Hong Kong, China. Honduras, being a small country with a limited variety of products it could produce with reasonable economies of scale as well as inadequate backward linkage facilities and heavy reliance on imported

fabrics, had not been able to increase the range of goods to the extent its competitors had done. It has even exited some product segments (e.g., men's cotton pyjamas) during the past 15 years (see box 1).

Box 1. Impact of ATC phase-out in Honduras

By restricting the export growth of competitive clothing industries, MFA quotas opened the door to the global market for the apparel sector in Honduras. Given these preferential trading conditions, foreign investment from the United States and Asia helped to establish a thriving apparel industry in Honduras. The removal of MFA quotas and the associated erosion of preferential access triggered a decline, causing the Honduras' share of the United States market to decline from 3.09 per cent in 2004 to 2.57 per cent by 2006. Additionally, the country's impressive escalation from the United States' thirty-first largest supplier of apparel products in 1991 to the seventh largest supplier in 2002 stalled and then slipped to tenth largest supplier in 2006 (United Nations Comtrade Database, 2007). Despite the country's close geographic and business relations with United States apparel firms, MFA expiration threatens the adolescent textiles and clothing industry. Strengthened relations with international companies and increased investment in the textile industry and vertically integrated enterprises, however, could support Honduras' struggle with global competition.

The collective shift of the Caribbean Basin (namely, Central America and the Caribbean) into the apparel industry began in the 1950s. At the time, new government policies promoted offshore production, and United States apparel firms showed increased interest in the Caribbean's cheap labour supply and geographic proximity. In the 1960s and 1970s, export-oriented industrialization became more popular among Latin American governments, prompting the growth of many export-processing zones (EPZs). However, export-led growth did not take hold until 1984 when the Caribbean Basin Initiative improved political stability and economic cooperation with the United States. The Special Access Programme, more widely known as the 807 Rule, further contributed to the sector's development in 1986 by allowing low-income countries such as Honduras to export unlimited amounts of apparel to the United States if the apparel was made from United States-cut fabrics. Following the introduction of this rule, "production-sharing" became a common practice for Caribbean apparel industries.

Currently *maquiladoras* are the most common type of apparel firm in Honduras, and they have made a notable contribution to the decrease of the country's high unemployment. While this initially augmented the growth of apparel sectors, the raw material conditions discouraged development of many local textile sectors, thus hindering the possibility of developing full-package manufacturing plants. Despite the incentives structure that promoted imports of fabric, several firms have integrated backwards by acquiring fabric production plants, thus demanding an expansion of the Honduras textile industry (Bair and Peters, 2006). Textile integration has granted autonomy to many Honduran companies although the textile industry as a whole remains in an infant state. As of 2005, CAFTA had encouraged the development of the textile industry by authorizing the use of raw materials from any member country. These developments appear to have strengthened the roots of the Honduran apparel industry and fortified its response to MFA expiration. Yet, Asian competitors have operated vertically integrated enterprises for decades.

(Continued)

Box 1. *(continued)*

Foreign involvement in Honduran clothing production has solidified the country's role in the global apparel market. United States investment in Honduran export-processing plants has played an integral part in the preliminary transfer of industrial technology and the development of United States-Honduran trade relations since the 1990s. As illustrated in table 5, the United States has monopolised Honduran exports since granting preferential treatment in 1991, taking advantage of the short lead times generated by the geographic proximity of Honduras. A study by Ozden and Sharma (2006) found that 8.5 per cent to 9.5 per cent of the average export price increase in Honduras, Costa Rica and the Dominican Republic could be attributed to United States preferential access schemes. Asian investors have also shown a strong interest in Honduras, funding the majority of Honduran textile factories. As Chinese companies look to expand globally, the Honduran clothing industry offers an attractive investment because of CAFTA's duty-free access to the United States market.

The stagnation of most Caribbean Basin apparel sectors since 2000 mirrors the progressive expiration of MFA quotas. Honduras' growth rates have slowed as well, relative to the exponential growth rates achieved in the 1990s, but the industry has concurrently adapted and advanced in recent years to prepare for increased levels of global competition. Honduras' progression from production sharing to full-package manufacturing and, especially, to vertically integrated production is central to this development. A vertically integrated industry comprising local production of textiles offers Honduras a strong competitive advantage over regional competitors who have not evolved from United States-dependent maquiladora production, a vulnerable form of enterprise plagued by low barriers to exit.

While Honduras has achieved record growth rates and captured market share from other Caribbean Basin competitors such as Jamaica and Haiti, the concentration of quota-sensitive apparel products in the last stage of MFA expiration posed a significant threat. Knitted T-shirts, knitted jerseys, and sweaters comprise the majority of Honduras' export product range (Bair and Peters, 2006). As these products previously were protected by high quota constraints, Honduras now faces direct competition from China. Product differentiation would help to protect Honduras in the global market, but the industry has made limited efforts in that direction.

Table 5. Top 10 destinations of Honduran apparel exports

(Unit: Percentage)

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
United States	..	98.9	97.2	97.1	96.8	97.6	97.6	97.8	97.4	97.7	97.2	96.8	96.0	95.9	93.8	93.4	95.1
Canada	15.1	0.2	0.3	0.4	0.5	0.7	0.9	0.9	1.2	1.2	0.9	1.3	1.8	1.4	1.8	1.8	2.2
Casta Rica	..	..	..	..	0.6	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.2	0.3	1.0	1.0
Mexico	36.5	0.3	0.1	0.0	0.2	0.0	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.4	0.6	0.7
Belgium	..	..	..	..	..	0.0	0.0	0.0	0.0	0.1	0.7	0.5	0.5	0.5	0.6	0.4	0.6
Japan	1.0	0.0	0.0	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	..
United Kingdom	..	..	..	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.3	0.2	..
France	..	..	..	..	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.2	..
Guatemala	..	..	..	0.4	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.2	0.4	0.3	0.2	..
Germany	37.1	0.5	0.6	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1	0.2
Total top 10	0.0	0.2	0.4	0.5	0.7	1.0	1.3	1.8	2.0	2.3	2.5	2.6	2.7	2.7	2.9	2.9	2.7

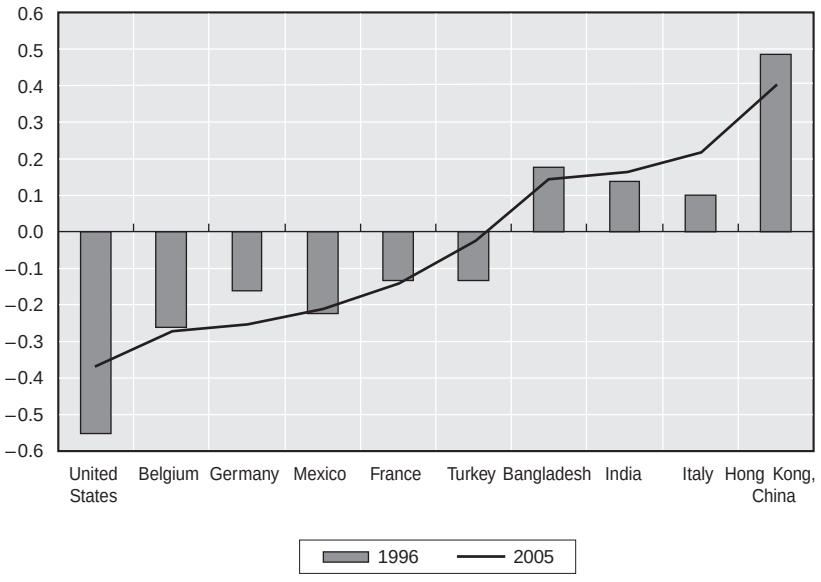
Source: United Nations Comtrade Database, 2007.

(d) In world markets, Chinese exports have become less similar to those of Bangladesh or India

To complement the above analyses of similarities of export structures, the Spearman correlation coefficients of revealed comparative advantage (RCA) indices of the top 10 exporters and their most dynamic competitor, China, are calculated. The correlation index takes values between +1 and -1, with positive values showing that a country specializes in similar products as China and with negative values showing dissimilarity of export structures. As figure VII indicates, China's textile export structure has become less dissimilar to that of the United States as a result of China's move into higher value-added textiles segments. At the same time, China is exporting increasingly similar products to those of India and Italy and less similar products to those of Bangladesh and Hong Kong, China. These findings support the catching up hypothesis: China is moving into more capital- and technology-intensive product segments and is improving the quality of export goods. The Spearman correlation coefficients of RCAs in the clothing market reveal some different trends (figure VIII). Compared with 1995, China exported more products in 2005 that were dissimilar to those exported by Italy, Mexico, Turkey and the United States, and less dissimilar ones compared with France. The similarity with Bangladesh and India, on the other hand, decreased during the same period. A possible reason for this finding is that China has basically diversified its export structure, moving into all categories and gaining export shares more rapidly than its competitors. This could have happened by the acquisition of foreign firms that produce a wider array of products.

Figure VII. Textile trade specialization of China vis-à-vis its top 10 competitors

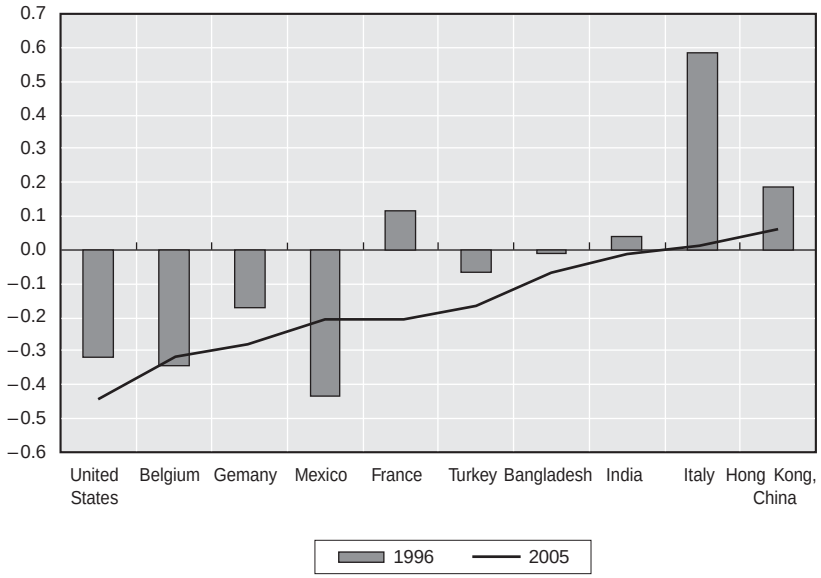
Spearman rank correlation coefficients of RCA indices, textiles



Source: OECD calculation based on United Nations Comtrade Database, 2007.

Figure VIII. Clothing trade specialization of China vis-à-vis its top 10 competitors

Spearman rank correlation coefficients of RCA indices, clothing



Source: OECD calculation based on United Nations Comtrade Database, 2007.

(e) China's revealed comparative advantage in labour-intensive products is decreasing

The revealed comparative advantage reflects a country's relative strength in exporting different types of commodities. The RCA index – which measures a country's export share for a commodity and compares it with the world export share of that commodity – is calculated at the 4-digit level of textiles and clothing categories for 1996-2005. In design-intensive goods where quality is easily differentiable, such as neckties, Italy has the highest revealed comparative advantage among the countries examined. Moreover, its RCA increased during the past 10 years. Bangladesh, for example, appears strong in labour-intensive manufactures such as men's shirts and T-shirts, with the highest RCA values in the group. China's revealed comparative advantage shows a declining trend in labour-intensive products such as men's shirts and T-shirts, and an increasing trend in neckties. This is additional support for the catching up view. This, however, does not mean that China may not be competitive in these segments in the world market. The RCA index simply reveals the performance of a commodity relative to other commodities; thus, it reflects more on the pattern of specialization rather than competitiveness per se. In other words, Chinese textiles and garments may be competitive in the world market, but other industries may be even more competitive. India's RCA has also increased for neckties, although it is still very low. India also shows an increasing RCA in T-shirts, but its RCA in men's shirts has decreased.

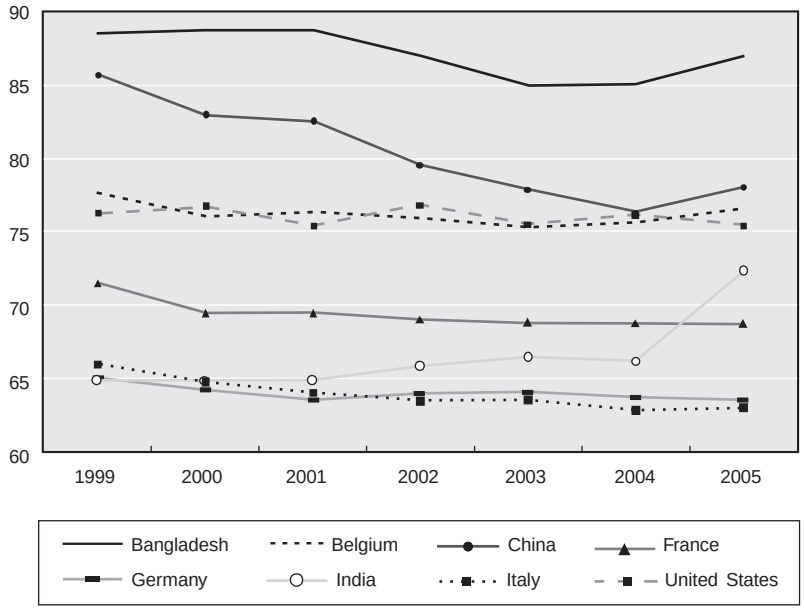
3. Reorientation of markets

During the quota system under ATC, the major way to expand export markets by the most productive producers was to enter into new markets or increase sales in markets that did not impose quotas. Before 2005, this led to a diversification trend of export markets for rapidly-growing producers such as China. With the phase-out of quotas, these producers started to gain market shares in Canada, Europe and the United States, and a larger share of their exports was directed to these markets. As figure IX indicates, countries previously restricted by quotas (such as Bangladesh, China and India) have reversed their trend of market diversification to market concentration in 2005. This reversal was sharper for Bangladesh and India, whose top 10 export markets had been countries with quota restrictions. China, on the other hand, had important markets such as Australia, Hong Kong, China, Japan and the Republic of Korea that did not impose quotas among its top 10 markets; therefore, the reversal towards market concentration is not as drastic as India's. On the contrary, countries not affected by quotas, such as the OECD members, did not show any significant change in their export market structure in 2005.

The phasing out of quotas has also brought about temporary market share gains for less efficient producers. As theory suggests, quotas add extra margins to the export price and limit the export volumes to quota-imposing countries, while there is excess

Figure IX. Producers previously restricted by quotas consolidate their export markets

Percentage share of top 10 export markets in total textile and garment exports by selected major producers



Source: OECD calculation based on United Nations Comtrade Database, 2007.

capacity in the rest of the world (assuming that at least some of the producers expand production at a faster pace than market growth in the markets affected by quotas, as has been the case), bringing down prices. Lower prices create extra demand in those countries. With the removal of quotas, the logic is supposed to work the other way around – exports to the previously quota-imposing countries should surge due to redirection from non-quota imposing countries. The example of China clearly illustrates this fact; in 2005, there was a sharp increase in the share of China's exports to Canada, Europe and the United States while some other major markets, such as Japan and the Republic of Korea, had a smaller share of exports. It should be noted, however, that in the case of Japan this was also due to the fact that Chinese exports grew much faster than Japanese demand.

Box 2. Uncertain times for Malagasy apparel

Madagascar offers a prime example of a low-income country drawn into the apparel industry by MFA quota protection and preferential treatment schemes. By limiting competition from other exporting countries and redirecting foreign investment to Madagascar, these programmes have facilitated the global establishment of this emerging industry. Madagascar is a particularly interesting case because of its dramatic growth period from 1990 to 2001, during which its clothing sector was one of the fastest growing industries in sub-Saharan Africa. In 2002, the industry endured a severe downturn due to a political crisis, and then rebounded to pre-crisis export levels by 2004 due to the depreciation of the Malagasy currency (a temporary defence against the pending MFA expiration). To surmount the long-term implications of MFA expiration and compensate for the country's reputation for political instability, Madagascar should increase the industry's competitiveness by (a) boosting investment and vertically integrating the textile industry, (b) promoting synergies within the export-processing zones and smaller companies, and (c) specializing in niche products that circumvent direct competition with China.

The swift development of Madagascar's clothing industry in the 1990s can be attributed to three main factors. First, Malagasy exports were promoted as an alternative to exporting countries restricted by the Multi-Fibre Arrangement. Second, duty-free access for clothing imports to the European market was granted by the European Union Cotonou Agreement programme and reaffirmed in 2001 by the "Everything but Arms" (EBA) initiative. Last, Madagascar profited from the Africa Growth and Opportunity Act (AGOA) programme, which granted duty-free access to the United States market for clothing products from sub-Saharan Africa, with a provision for the use of local fabric until September 2007. The impact of AGOA on Madagascar's clothing industry is evident from the increase in foreign investment after the scheme was announced in 1997 and the 114 per cent growth in Malagasy apparel exports from 1997 to 2001 (Tait, 2002).

Stimulated by these programmes, Madagascar has established itself in the global clothing market, primarily in the role of an apparel assembler. The industry grew from a handful of factories in the 1980s to approximately 115 factories in 2005 (Sedowski, 2006). Meanwhile, the country's textile industry remains underdeveloped due to insufficient cotton production and lack of investment in production technologies by Madagascar. The country's three textile mills cannot meet demand, so most

(Continued)

Box 2. *(continued)*

production units are imported from China, a low-cost alternative, and Mauritius, a qualifying LDC AGOA supplier.

The Multi-Fibre Agreement first facilitated the establishment of Madagascar's apparel industry by promoting triangular manufacturing arrangements. In response to MFA quota restrictions, middle-income countries began to subcontract all or part of a project to less developed countries, thus developing fledgling industries such as Madagascar's apparel sector. As Malagasy apparel firms became more established, they capitalized on these investments by forming direct relationships with buyers, particularly from Europe.

The growth of Madagascar's clothing industry is also largely attributed to foreign investment from Mauritius, which was attracted by Madagascar's cheap labour supply. Concurrently, Madagascar's thriving French expatriate population facilitated an influx of foreign investment into the expanding industry. Asian investors (chiefly China, Malaysia, Pakistan, Singapore and Hong Kong, China), quickly followed suit in the 1990s. In addition, since the launch of AGOA, several Middle Eastern companies (particularly from Saudi Arabia and the United Arab Emirates) have also invested in the Madagascar apparel sector (Tait, 2002).

Among the various national development initiatives, the introduction of EPZs in 1990 had the greatest impact on the growth of the clothing and textile industry. Taking advantage of MFA quota protection, duty-free inputs for 95 per cent of exports attracted many new market entrants and the development of three major production centres. These government-subsidized zones aimed to increase foreign investment through duty exemptions, tax deferral and drawback schemes, and a 10-per cent tax on dividends (Tait, 2002). The EPZs of Madagascar and Mauritius have been particularly successful in that they offer EPZ benefits to firms that are located anywhere in the country. Interestingly, the EPZs still suffered in the 2002 political crisis because of the industry's low barriers to exit, but they were also the best equipped to bounce back (Cling and others, 2005).

Despite the apparel industry's quick recovery after the political crisis, the ability of the country to withstand the expiration of preferential treatment schemes is unclear. Madagascar's physical infrastructure severely limits the development of the textile and clothing industry. This involves rent, electricity and administrative costs, and Madagascar's overhead charges have become a serious consideration for potential investors. The country has an inefficient transportation system; the road system is deficient, port facilities are in poor condition, and export lead times are long because the country is not on a direct shipping route (exports must be shipped via Durban in South Africa). In addition, the country's deficient training facilities are limiting the development of skilled labour and contributing to the industry's low productivity rates.

Despite infrastructural setbacks, however, exports to the European Union market have grown since 2004. Interestingly, exports to the United States have concurrently fallen (figure X). Madagascar's share of the United States market fell from 0.38 per cent in 2004 to 0.25 per cent in 2006, primarily because of a decrease

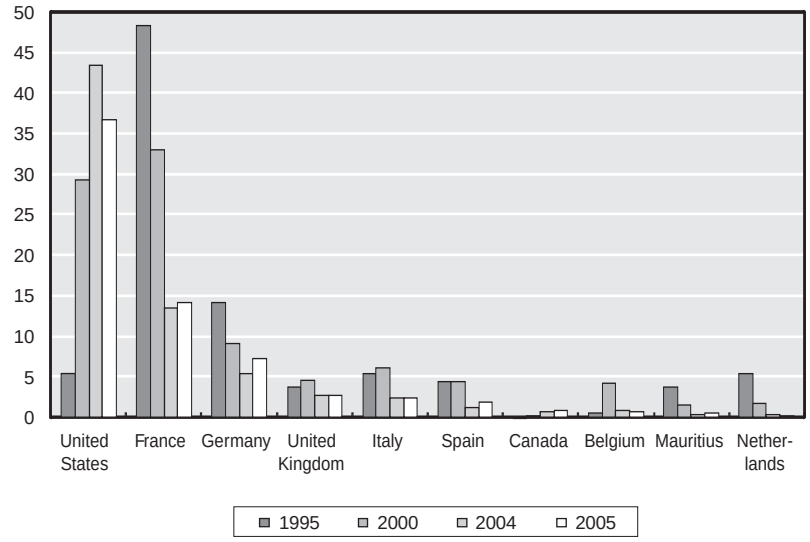
(Continued)

Box 2. *(continued)*

in knitted or crocheted apparel and accessory exports. Meanwhile, the share in the German market, the third top destination for Malagasy 2005 exports, increased from 0.09 per cent in 2003 to 0.16 per cent in 2006, due to a gain in market share of the same product category. The slight decrease in the German unit price of these products has not discouraged growth, while a dramatic drop in price from US$ 16.90 in 2004 to US$ 3.90 in 2006 has visibly impaired exports of this category to the United States. – United Nations Comtrade Database, 2007.

Figure X. Top 10 destinations for exports by Madagascar in 2005

Per cent



Source: United Nations Comtrade Database, 2007.

Similar to the case of Honduras (see box 1), vertical integration may offer hope for the future of the Malagasy clothing industry. Madagascar's clothing factories could integrate with the country's few textile production facilities and handful of accessory manufacturers. This would require expansion of the domestic cotton industry, a factor that was expected to become more pertinent after the AGOA fabric provision phase-out in September 2007. HASYMA, the national cotton production organization that was privatized in 2004, has announced plans to boost future cotton production. Developing domestic fabric production would make Madagascar more competitive in the global market because the country's current fabric orders from India and China delay production by three to five weeks. Significant technological and infrastructural advancements would be necessary, however, to reduce Madagascar's

(Continued)

Box 2. *(continued)*

current lead-time on orders (six to seven weeks) to an efficiency level competitive with Indian and Chinese suppliers.

The apparel industry's chance of long-term survival would also improve by increasing synergies between Madagascar's many small, adolescent companies. USAID has initiated the JUMPSTART programme to promote the development of small and mid-sized firms. Meanwhile, the European Union has developed a clustering organization called Text'lle Mada, to facilitate the pooling of knowledge and product specializations. The cluster appears to have increased the apparel sector's competitiveness in the global market by decreasing costs and by uniting companies in offering a broader range of services to overseas clients and competing with China for large orders.

Product specialization would also increase Madagascar's competitiveness in the global market. Wadding, felt, non-wovens, yarns, twine and cordage, which have been exported to Germany since 1994, offer a potential niche market for Madagascar. These products comprised 0.12 per cent of the German market share and 0.02 per cent of the United States market share in 2006. While nearly all categories of apparel exports are growing, this product category remains a minor export category for China. Additionally, Madagascar can offer a price advantage, exporting for US$ 1.70 to the German market versus China's average unit price of US$ 4.40 (United Nations Comtrade Database, 2007). Further investment in the development and promotion of these products in the United States and European markets would allow Madagascar to sidestep Chinese competition.

4. Relocation of production facilities

The quota system under ATC was an important determinant of the location of foreign direct investment (FDI) in textiles and garments. Multinationals aiming at re-exporting to the host country had been constrained in increasing their investment in countries where quotas were binding, and they had been forced to expand in countries that may have had lower production efficiency. Similarly, exporter countries with high productivity but full utilization of quotas established production facilities in countries with lower productivity but under-utilized quotas or in countries not subject to quotas. This resulted in dispersed production of textiles and clothing around the globe, implying inefficiencies.

The removal of the quota system, not surprisingly, accelerated the efficiency-enhancing consolidation wave that had started earlier in the industry. This consolidation/relocation wave, together with declining trade barriers, has also been driven by decreasing services costs, including transportation, and has allowed for further slicing of the value-added chain (Jones and Kierzkowski, 1990). Production plants both from low-cost, low-productivity and high-cost, high-productivity countries are relocating to the most productive, relatively low-cost countries.

The move to a more efficient global production system, however, involves adjustment costs that may be sizeable in the short term. These adjustment costs may incur in the form of output and employment losses related to relocation overseas. Using

time series industry data, Molnar and others (2007) estimated the labour market impacts in OECD countries of overseas relocation and found that there was heterogeneity across industries. Robust to the way of specification, the findings show that employment in the services industries is positively affected by moving overseas, while in the manufacturing sectors the effect depends on whether the sector has strong commercial ties (in terms of the share of imports and outward FDI) with non-OECD countries. In the industries with the strongest ties with non-OECD countries, such as textiles and garments, food and beverages, electronics and transport equipment, there is a strong negative effect of outward investment on domestic employment, while in other manufacturing industries such as pulp and paper, chemicals, metals and machinery, no significant impact is found.

Furthermore, according to the study, in sectors with strong ties to non-OECD countries, increasing relocation overseas raises long-term wage elasticity as well as the speed of adjustment of domestic employment. In the services sectors, on the contrary, overseas investment reduces the speed of adjustment of domestic employment. The above findings suggest that in certain manufacturing industries, particularly textiles and garments, overseas and domestic employment may be substitutable to a certain extent, while in services they are somewhat complementary. Analysis of the relationship between overseas and domestic employment in the G3 countries shows that they are somewhat complementary in the United States and substitutes in Japan, while for Germany there are no significant results.

C. Conclusion

This chapter provides a preliminary insight into the economic impacts of the ATC phase-out in 2005 and the strategies adopted by exporters in its anticipation. It is clear that developments in the first few months immediately following the last stage of ATC were inspired by the back-loading of quota removal. The increases of imports to the European Union and the United States of several hundred or even several thousand per cent on many textile and clothing items prompted the introduction of temporary safeguards that intermittently overturned or slowed down the adjustment process. The fact that some of the exporters who experienced declining exports to the European Union following the abolishment of quotas in the first few months of 2005 were gaining their market shares back in the 2006, and the fact that this did not happen in the United States market where the trends from 2005 continued, suggests that temporary measures introduced by the European Union might have been more binding even though it is also clear that impacts varied by product category.

Temporary quotas have curbed the surge in imports from China, but each year China's competitors in these markets are put under increasing pressure. As far as the most current data (January-March 2007) are concerned, in both the European Union and the United States markets an increase in the imports of textiles and apparel from China are observed from the same period in 2006, which suggests acceleration with regard to the rate of growth for the whole of 2006.

The anticipation of the new post-MFA environment based on market principles as well as the liberalization already effectuated within ATC prior to 2005, prompted an adoption of new survival strategies. A promising strategy adopted by mainly high-cost, high-quality producers was vertical specialization. Whether this strategy can be adopted largely depends on the type of the product; where consumers can differentiate by product quality (e.g., silk neckties), it has been seen as a successful choice, but where

it is hard for consumers to differentiate across different qualities, price competition arose instead. For this latter type of product (e.g., men's cotton shirts and T-shirts), China emerged as the major supplier, forcing other exporters to lose market shares or exit the market.

As vertical specialization appears to be a viable option mainly for high-quality producers, some exporters in the lowest segments have adopted horizontal specialization to maintain or gain market shares. This appears to be the strategy in particular for smaller producers who cannot possibly compete in a wide range of products due to limited economies of scale. To exploit economies of scale in production and transportation, for these producers it is essential to identify their niche products with comparative advantage and focus on fewer destinations. Relocation of production facilities now targets lower-cost, high-productivity large-size countries. Multinational enterprises have long since started this process and had been limited in such expansion by the quota system. Relocation from low-income, low-productivity countries is not yet seen as a major trend; however, with the removal of quota restrictions, a certain degree of consolidation is foreseen in low-cost, high-productivity countries.

The consequences of the phase-out differ across exporters, and their preparedness is playing a role in how they manage to cope with competitive challenges in more open markets. Exporters with low costs and high productivity such as China, India and, to a lesser extent, Pakistan and Viet Nam have succeeded in benefiting from enlarged markets, while the phase-out has brought about challenges for OECD and small-country producers. A major challenge in OECD countries is how to cope with decreasing labour demand in the textile and clothing industries as a result of relocation, while in low-income countries the challenge is how to specialize in products and markets in order to stay afloat. This latter group of countries have been given further time for adjustment, which should be better exploited to prepare for fiercer competition in the global textile and clothing markets, especially by learning from the experience prior to the phase-out.

REFERENCES

Bair, J. and E. D. Peters, 2006. "Global commodity chains and endogenous growth: Export dynamism and development in Mexico and Honduras", *World Development*, vol. 34, No. 2; pp. 203-221.

Cling, J-P., M. Razafindrakoto and F. Ribaud, 2005. "Export processing zones in Madagascar: A success story under threat?" *World Development*, vol. 33, No. 5; pp. 785-803.

Eurostat COMEXT, 2007. European Commission, Brussels.

Ito, K. and K. Fukao, 2005. "The vertical division of labour and Japanese outward FDI: Impacts on human capital deepening in Japan", mimeograph.

Jones, R. W. and H. Kierzkowski, 1990. "The role of services in production and international trade: A theoretical framework", in R. W. Jones and A. O. Krueger (eds.), *The Political Economy of International Trade: Essays in Honour of Robert E. Baldwin*. Oxford, Basil Blackwell.

Kreinin, M. E. and J. M. Finger, 1979. "A measure of export similarity and its possible uses", *The Economic Journal*, vol. 89.

Molnar, M., N. Pain and D. Taglioni, 2007. "The internationalisation of production, international outsourcing and employment in the OECD", OECD Economics Department Working Paper 561. Paris.

Nordas, H. K., 2005. "The global textile and clothing industry, post the agreement on textiles and clothing", Discussion Paper No. 5, World Trade Organization, Geneva.

OECD, 2005. *Trade and Structural Adjustment – Embracing Globalisation*. Paris.

_____, 2004. *A New World Map in Textiles and Clothing – Adjusting to Change*. Paris.

Office of Textiles and Apparel, 2007. United States Department of Commerce, Washington, D.C.

Ozden, C. and G. Sharma, 2006. "Price effects of preferential market access: Caribbean Basin Initiative and the apparel secto", *World Bank Economic Review*, vol. 20, No. 2; pp. 241-259.

Reinert, K. A., 2000. "Give us virtue, but not yet: Safeguard actions under the Agreement on Textiles and Clothing", *The World Economy*, vol. 23, No. 1; pp. 25-55.

Sedowski, L., 2006. "Hanging by a thread? The post-MFA competitive dynamics of the clothing industry in Madagascar", PhD thesis, University of KwaZulu-Natal, Durban, South Africa.

Tait, N., (2002. "Prospects for the textile and clothing industry in Madagascar", *Textile Outlook International*, March-April 2002; p. 131.

United Nations Comtrade Database, 2007. United Nations, New York.

World Trade Organization, 2006. *World Trade Report 2006*. Geneva.

_____, 2004. "Comprehensive report of the Textiles Monitoring Body to the Council for Trade in Goods on the Implementation of the Agreement on Textiles and Clothing during the third stage of the integration process", G/L/683. Geneva.